

ABSTRACT OF THE DISCLOSURE

A data switch for network communications includes a first data port interface which supports at least one data port which transmits and receives data. A second data port interface is also provided supporting at least one data port transmitting and receiving data. A CPU interface is provided, with the CPU interface configured to communicate with a CPU. A common memory is provided, and communicates with the first data port interface and the second data port interface. A memory management unit is provided, and communicates data from the first data port interface and the second data port interface and an common memory. At least two sets of communication channels are provided, with each of the communication channels communicating data and messaging information between the first data port interface, the second data port interface, and the memory management unit. One of the first data port interface and the second data port interface is configured to determine forwarding information from a flexible length header for an incoming data packet received at a port of the one data port interface, and is configured to determine the forwarding information by shifting the information field positions read from the flexible length header.